

APPENDIX C

## **Well Development and Well Survey Data**

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Source: IT, 1999 (Appendix C)

Location: HAMILTON  
Personnel: J. STRACK  
Date: 2-3-97  
Method of Development:

Well/Piez. #: MW-POLA-117A  
Date Installed: 10/18/96  
Csg. Diameter (I.D.): 4"  
Total Depth (ft. BGL): 18.40' TOC
☒ Swabbing ☒ Bailing ☐ Pumping

Weather: CLOUDY Screened Interval (ft. BGL): 5'-15'

Equipment #s: pH Meter BETA TECH HYDAC EC Meter BETA TECH HYDAC Turbidity Meter HF DRT-15CE

Equipment decontaminated prior to development Y X N   

Describe: STEAM CLEANER

Collected sample of water added to well Y    N ✓

Describe:   

INITIAL DEPTH: 18.40' (TOC)  
↳ see below

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS	
2-3-97	1030	3.80	0	7.33	2040	OFF SCALE		53.6
	1035		12	7.57	2120	631		53.1
	1055	16.50	16	N/A	N/A	N/A	BEGIN SWABBING	
	1115	16.40	—	—	—	—	SUSPEND SWABBING	
	1315	15.45	—	—	—	—	RECOVERING	
	1515	15.15	↓	7.15	2040		"	
2/4	1330	11.38	21	7.76	1778	514	Dry	58.1
2/21	1345	3.82	0-2.5				Start pumping @ about 14 gpm.	
	1355	—	↓	7.61	1330	25.6	Clear	
	1400	—	3.75	7.81	1480	24.1	Clear	64.1
	(stop at 1415 start 1415)	—		7.94	1470	27.2	Clear (after pump turned back on)	66.1

TOC = TOP OF CASING (STEEL MONUMENT)  
Stickup = 2.85'

WELL/PIEZ NO. 11W-F049-1  
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WDRC02XLS

Location: HAMILTON BRAC

 Well/Piez. #: MW-POLA-117B

 Personnel: 1 SRAK

 Date Installed: 10/18/96

 Date: 2-3-97

 Csg. Diameter (I.D.): 4"

Method of Development:

 Total Depth (ft. BGL): 31' (30.65')
☒ Swabbing ☒ Bailing ☒ Pumping

 Weather: CLOUDY Screened Interval (ft. BGL): 16'-26'

 Equipment #s: pH Meter ☒ EC Meter ☒ Turbidity Meter ☒

 Equipment decontaminated prior to development Y ☒ N ☐

 Describe: STEAM CLEANER

 Collected sample of water added to well Y ☐ N ☒

Describe: \_\_\_\_\_

 INITIAL BOTTOM DEPTH: 31.00' (TOC)

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS
2-2-97	1127	4.25	0-2	7.68	1500	4.12	WL INITIALLY REMOVING ON 1" BAIL
	1131	19.60	12	7.98	1631	338	
	1140	24.80	16	8.02	1447	958	
	1300	15.65					WL PRIOR TO SWABBING
	1330		26	8.15	1393	OFF SCALE	AFTER SWABBING BAILING
	1415	25.2	27	7.93	1349	"	PUMPING 1/4 gal
	1422	27.5	30	7.79	1367	140	
	1436	~29	34	7.56	1286	199	WL BELOW PUMP CHECK VALVE
2-2-97	0 min	4.98	0				Start pump 1/4 gal
	5 "	-	~3	7.46	9400	217	
	10	-	~5 gal	7.74	960	193	Slightly cloudy

 static:  
 .98'  
 TOC  
 (steel  
 Mon.)

 TOC = TOP OF CASING (Steel Monument)  
 Stickup = 3.45'

**WELL DEVELOPMENT RECORD**  
(continuation sheet)

WELL/PIEZ. NO. MW-PLA-117  
PAGE 2 OF 3

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS
2/4/97	1355	<del>3.38</del> 4.37	Pump rate: 0.5 gpm				
	13:56	4.42					
	13:57	5.30					
	13:58	6.28		7.68	1051	910	
	14:00	7.35					
	14:02	9.00		7.73	1097	414	
	14:16	11.20		7.77	1011	1280	
	14:20	13.26		7.75	1042	1320	
	14:25	15.77		7.71	1087	967	
	14:30	18.20		7.72	1051	640	
	14:35	20.13		7.78	1068	443	
	14:40	21.37		7.74	1078	316	
	14:45	22.36		7.71	1041	274	
	14:50	23.31		7.76	1038	296	
	14:55	24.15		7.64	997	990	
	15:00	24.94		7.61	987	1220	
	15:05	26.30		7.58	999	957	
	15:10	26.95		7.55	1022	529	
	15:15	27.74		7.55	993	1042	
	15:25	29		7.73	956	1040	Dry
			Total: ~40 gal				

Temp

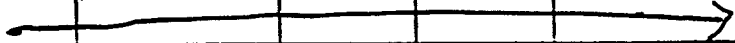
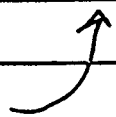
60.5

62.

62.

**WELL DEVELOPMENT RECORD**  
**Hamilton BRAC - Project # 762538**  
 (continuation sheet)

WELL/PIEZ. NO. MW-PLA-117  
 PAGE 3 OF 3

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS	Temp
2/21	20 min	-	5	7.83	1010	316		
	30	-	7.5	7.86	1020	169.4		
	-50	-		7.80	1020	77.2		64.4
	1.10	-		7.73	1110	172.7		65.7
	1hr 30min	-		7.69	1050	467	Slightly cloudy again	66.1'
	1hr 50m	-		7.75	980	372		
	2h 10m	-		7.76	980	155	getting clearer	
	2h 30m	-		7.55	1000	82.0		
	2h 37m	-		7.52	910	99.0	Turned up pump, still slightly clear	
	2h 42m	-	~45 gal				Pump off, no water	
Recovery 								
	0-9 min	25.82		Time	water level			
	10	25.70		2 hr	12.40			
	11	25.42		2h 15m	11.10			
	12	25.25		2h 30m	10.35			
	15	24.90		2h 45m	9.42			
	20	24.31		3hr 58m	6.92			
	30	23.25		5hr 22	5.75			
	1hr 10m	18.26		6hr 57	5.32			
	1hr 30m	15.42						
	1hr 45m	13.88						
GALLONS	REMOVED					PREPARED BY	L Can	
BAILED								
PUMPED	~45 on 2/21/97							
TOTAL								

Location: MW-POLA-120 (Pol Hill)Well/Piez. #: MW-POLA-120Personnel: L. CARRDate Installed: 1/30/97Date: 2/4/97Csg. Diameter (I.D.): 4"

Method of Development:

☒ Swabbing ☒ Bailing ☒ PumpingTotal Depth (ft. BGL): 34.40  
34.40 (Toc)Weather: Partly Cloudy Screened Interval (ft. BGL): 15'-30'Equipment #s: pH Meter Hydax 9 EC Meter Hydax 9 Turbidity Meter Turb 3Equipment decontaminated prior to development Y ☒ N ☐Describe: Steam CleanedCollected sample of water added to well Y ☐ N ☒Describe: n/aWater level 11.12' bgl (Toc) Total Depth: 34.40' (Toc) (Toc = Steel Manometer Stickup)

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS
2/4	12:37	11.12'	0-2.5	8.38	16.31	6.83	cloudy, 1st bail.
	12:44	30.71'	17.5	7.84	15.41	135	Silty.
	12:47	32.26'	29	7.62	16.41	80	Cloudy. Nearly dry.
2/18	10:45	12.53'	SWABS				Sub for 15 min.
	11:25	14.40'					Begin Data. Plan level @ 12.70' aft
	11:45	-	Approximate Vol. 0-19.2	7.54	1280	878	Run Copper 0.5 gm
	11:50	-	2.5	7.63	1170	354	cloudy, brown water.
	12:00	-	5.0	7.70	1160	759	"
	12:00	-	7.5	7.61	1200	855	" "
	12:05	-	10.0	7.59	1170	1057	Cloudy, brown
	12:10	-	12.5	7.49	1220	1190	" "

Static  
level for  
2/18:  
12.55'

1900

WDRCD2.XLS



Location: POL HillWell/Piez. #: MW-POLA-121Personnel: L. CARRDate Installed: 1/31/97Date: 2/4/97Csg. Diameter (I.D.): 4"

Method of Development:

Total Depth (ft. BGL): 32.67'☐ Swabbing ☒ Bailing ☐ PumpingWeather: Sunny Screened Interval (ft. BGL): 31'-7'Equipment #s: pH Meter 4610 EC Meter 4610 Turbidity Meter Turb.3Equipment decontaminated prior to development Y ☒ N ☐Describe: Steam/Pressure cleanedCollected sample of water added to well Y ☐ N ☒

Describe: \_\_\_\_\_

Static: 11.83' (top of standpipe) T.D. of well = 56.12' (t.o. standpipe) Stickup -

DATE	TIME	WATER LEVEL (ft. BGL)	VOLUME REMOVED (gal)	pH	EC	TURBIDITY	COMMENTS
2/4/97	4:17	11.83'	0-2.5	6.53	618	21	1st bail.
	4:25	-	12.5	7.27	1295	OFF SCALE	cloudy, gray
	4:30	33.52'	30.0'	7.60	2500	"	" Dry "
Static 11.83'	2/18	11.83'	0-2.5	7.13	2400	n/a (off scale)	Gray, (pre-rinse) cloudy, smelly
	9:33		12.5	7.24	640	n/a	"
	9:37	29.15'	17.5	7.23	600	544	"
	SWAB	27.37'					
	10:15		20	7.40	920	54	Post-swab.
	10:20	34.97'	25	-	-	-	-

~~Water level meter accuracy questionable. - Lagard 2/1/97~~

WDRCD2XLS

Hamilton Army Airfield  
BRAC - POL Hill  
Monitoring Wells

WELL ID	NORTHING	EASTING	GRD ELEV.	TOP OF CASING	TOP OF PVC	COMMENT
PL-MW-101	575,607.7	1,418,496.3	46.50	48.88	48.76	MONITORING WELL
PL-MW-103	575,736.1	1,418,455.1	14.79	17.34	17.17	MONITORING WELL
PL-MW-104	575,720.2	1,418,889.1	24.83	27.46	27.25	MONITORING WELL
PL-MW-105	575,910.6	1,418,606.8	9.53	11.64	11.49	MONITORING WELL
PL-MW-106	575,895.1	1,418,756.4	4.94	6.72	6.53	MONITORING WELL
PL-MW-107	575,853.5	1,418,844.4	5.11	7.28	7.07	MONITORING WELL
PL-MW-108	575,839.8	1,418,908.6	4.91	6.89	6.72	MONITORING WELL
PL-MW-109	575,810.7	1,418,977.3	5.64	7.48	7.28	MONITORING WELL
PL-MW-111A	576,049.8	1,418,411.3	5.37	7.52	7.33	MONITORING WELL
PL-MW-111B	576,049.9	1,418,421.6	5.34	7.91	7.67	MONITORING WELL
PL-MW-112A	575,953.0	1,418,758.8	2.27	4.24	4.08	MONITORING WELL
PL-MW-112B	575,950.6	1,418,768.3	2.14	4.33	4.17	MONITORING WELL
PL-MW-113A	575,912.4	1,418,880.8	3.18	5.12	4.96	MONITORING WELL
PL-MW-113C	575,915.1	1,418,872.0	3.08	5.53	5.40	MONITORING WELL
PL-MW-114	575,650.8	1,418,385.6	20.50	22.95	22.70	MONITORING WELL
PL-MW-115	575,553.1	1,418,395.9	22.31	24.41	24.16	MONITORING WELL
PL-MW-116	575,822.8	1,418,567.4	16.12	18.80	17.97	MONITORING WELL
MW-POLA-117A	575,997.2	1,418,615.0	5.26	8.36	7.86	MONITORING WELL
MW-POLA-117B	575,991.0	1,418,621.4	5.15	7.55	7.25	MONITORING WELL
MW-POLA-118	575,884.6	1,418,250.9	12.39	15.00	14.49	MONITORING WELL
MW-POLA-119	575,685.6	1,418,143.1	19.30	21.83	21.53	MONITORING WELL
MW-POLA-120	575,457.2	1,418,276.4	26.54	30.14	29.44	MONITORING WELL
MW-POLA-121	575,620.5	1,418,543.6	46.30	49.72	48.70	MONITORING WELL



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18 March, 1998

## INTERNATIONAL TECHNOLOGY CORPORATION

Hamilton Army Airfield  
Bldg. 86 South Runway  
Novato, CA 94949

Attn.: Dean Thomas

Re: **SURVEY REPORT - HAMILTON ARMY AIRFIELD**  
**BRAC Project No. 762538**

SAMPLE LOCATION	NORTHING	EASTING	ELEVATION (GRD)-(TRIG)	ELEVATION (PVC)-(LEVEL)	ELEVATION (GRD)-(LEVEL)
<b>HOSPITAL HILL - TEMP. WELLS</b>					
HHTW-01	573,205	1,419,361	---	3.49	3.38
HHTW-02	573,232	1,419,261	---	2.62	2.3
HHTW-03	573,277	1,419,341	---	2.04	1.8
HHTW-04	572,947	1,419,457	---	4.78	4.09
HHTW-05	572,977	1,419,486	---	3.69	2.51
HHTW-06	572,916	1,419,509	---	2.39	2.13

### POL HILL - TEMP. WELLS / SURFACE WATER SAMPLE LOCATIONS

PZ-POLA-01	575,993	1,418,618	---	7.43	4.9
PZ-POLA-02	575,949	1,418,761	---	4.19	1.7
PZ-POLA-03	575,911	1,418,876	---	4.86	2.8
PZ-POLA-04	575,896	1,418,753	---	6.97	4.4
SW-POLA-01	576,053	1,418,628	6.07*	---	---
SW-POLA-02	575,920	1,418,983	6.10*	---	---

### ONSHORE PORTION OF OFFSHORE FUEL LINE SAMPLE LOCATIONS

PH-SEGI-01X	573,750	1,426,431	-5.4	---	---
PH-SEGI-02X	573,735	1,426,478	-5.5	---	---
PH-SEGI-03X	573,719	1,426,526	-4.3	---	---
PH-SEGI-04X	573,704	1,426,571	-3.7	---	---
PH-SEGI-05X	573,690	1,426,620	-3.1	---	---
PH-SEGI-06X	573,676	1,426,669	-1.7	---	---

\* Elevation of Surface Water Sampling Location at top of staff gauge.

Note: Onshore portion of Offshore fuel line sample locations are based on the positions indicated by Joe Strack (IT) on 16 March 1998. Elevations are of the existing ground surface 16 March 1998.